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EXAMINER

ROSENDALE, MATTHEW L

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 12/23/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/217,937

Applicant(s)

ONODA ET AL.

Examiner

Matthew L Rosendale

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 05 September 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 9/5/03 regarding claims 1 – 26 have been fully considered but they are not persuasive. Regarding claims 1 and 16, the applicant argues that Kitazawa does not disclose a dividing unit that divides an image sensed by an image sensor into a plurality of areas and a grouping unit that groups the divided areas into object areas citing that the measuring areas 20a – 20c of Kitazawa do not constitute what is being claimed. The applicant concludes that the invention as claimed allows for a main object image to be located at any position in the image, thus the degree of freedom of focus control as well as operability of the device are greatly improved.

However, the claimed feature of a dividing unit and a grouping unit is written broadly enough to be met by the invention disclosed by Kitazawa. Figure 1 of Kitazawa shows a dividing unit that divided an image sensed by an image sensor into 3 areas 20a, 20b, and 20c. These three areas are grouped into areas where the main object may be located. The user may then select the area corresponding to the main object in the image to perform a proper focus adjustment.

It is pointed out by the examiner that claims 1 and 8 recite that the diving unit only divides an image sensed by the image sensor into a plurality of areas. It is not claimed that the divided areas contain objects in the image. In addition, the grouping unit groups the divided areas into object areas where the term “object areas” is not defined by the claim and is only provided as a label for each divided areas. Even still, the claim does not recite an object must be

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contained in the object areas. The limitation is interpreted as being an area capable of containing an object.

Since Kitazawa does disclose dividing a sensed image into a plurality of areas and grouping the areas into object areas where a main object may exist then Kitazawa does teach all claimed features of claims 1 and 8.

The applicant also traverses the Official Notice taken in claims 3, 5, 6, and 7. A reference will be provided for each Official Notice as requested by the applicant. However, supplying a reference to support Official Notice taken in the previous action does not change the grounds of rejection (See MPEP 2144.03). To simplify the number of arguments, rejections of claims 5 and 6 over Applicant's Conceded Prior Art in view of Kodama in further view of Hirota have been withdrawn.

Response to Amendment

In view of the applicant's amendment, the rejection of claims 16 – 26 are rejected under 35 U.S.C. 112, second paragraph have been withdrawn. In addition the objection to claim 1 has also been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 5, 8, 12 – 19, and 22 – 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitazawa.

Referring to claim 1, Kitazawa discloses an area discriminating means, a main object detecting means, a main object changing means for allowing the photographer to change the detected main object as shown in figures 5a – 5d, and a focusing means for performing a focal adjustment of the selected main object area as shown in figure 6 (Col. 6, Line 44 – Col. 7, Line 66).

2. Referring to claim 2, Kitazawa discloses an object area changing means for selecting object areas that are horizontally perpendicular to the optical axis as shown in figures 5a – 5d. The objects areas are selected in order where the next main object is located horizontally adjacent to the current main object as indicated by the indicating LED's 8a – 8c.

3. Referring to claim 5, Kitazawa discloses a slide switch used to select the main objects located to the right, left, and center of the central point in the scene (Col. 5, Lines 18 – 37).

4. Referring to claim 8, Kitazawa discloses a manual slide switch for selecting object areas (Col. 5, Lines 18 – 37).

5. Referring to claim 12, Kitazawa determines the main object in a scene by performing a predetermined evaluation operation on each of the determined object areas (Col. 6, Lines 10 – 32).
6. Referring to claim 13, the main object determination means of Kitazawa automatically determines the main object area (Col. 6, Lines 10 – 32).
7. Referring to claim 14, Kitazawa discloses a priority order determination means that calculates the main object based on an algorithm such as determining the object having the closet distance. That object is selected as the highest priority object area and is set as the main object. The user changes the main object by selecting an object adjacent to the initial main object that has a lower calculated priority based on the algorithm used by Kitazawa. Kitazawa calculated an initial main object based on an algorithm (Col. 6, Lines 22 – 32) and sets the focus of the camera accordingly. The initial main object selected by the camera of Kitazawa is determined to have the highest priority. When the user changes the main object by selecting a new main object adjacent to the current initial main object, the user is changing in descending priority order because the object areas that are adjacent to the initial main object have a lower priority than the initial main object as determined by the algorithm of Kitazawa.
8. Referring to claim 15, in the priority order determination step of Kitazawa, a main object area is selected based on an algorithm that calculates an evaluation value for each object such as object distance. That object is selected as the highest priority object area and is set as the main

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object. The user changes the main object by selecting an object adjacent to the initial main object that has a lower calculated priority based on the algorithm used by Kitazawa (Col. 6, Lines 22 – 32). The initial main object selected by the camera of Kitazawa is determined to have the highest priority. When the user changes the main object by selecting a new main object adjacent to the current initial main object, the user is changing in descending priority order because the object areas that are adjacent to the initial main object have a lower priority than the initial main object as determined by the algorithm of Kitazawa.

9. Referring to claim 16, Kitazawa discloses a method of determine a main focus object in a scene by operating an area discriminating means for discriminating a plurality of areas based on a special frequency of areas in a direction that is horizontally perpendicular to the central optical axis as shown in figures 5a – 5d, a main object detecting means for detecting an initial main object based on a predetermined criteria (Col. 6, Lines 10 – 32), a main object changing means for allowing the photographer to change the detected main object as shown in figures 5a – 5d, a change object detection means that detects whether or not there is an instruction to change the main object area, a control step for disabling the main object changing means when it is determined that there is no instruction to change the main object area (Col. 8, Line 67 – Col. 20, Line 6), and a focusing means for performing a focal adjustment of the selected main object area (Col. 5, Lines 18 – 37).

10. Referring to claim 17, Kitazawa discloses an object area changing means for selecting object areas that are horizontally perpendicular to the optical axis as shown in figures 5a – 5d.

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The objects areas are selected in order where the next main object is located horizontally adjacent to the current main object as indicated by the indicating LED's 8a – 8c and the user designates the new main object by operating a slide switch located on the outside body of the camera (Col. 5, Lines 2 – 37).

11. Referring to claim 18, the slide switch of Kitazawa designates right and left directions (Col. 5, Lines 17 – 26).

12. Referring to claim 19, the directions designated by the area selecting means of Kitazawa is horizontally perpendicular to the central optical axis as shown in figures 5a – 5d.

13. Referring to claim 22, Kitazawa determines the main object in a scene by performing a predetermined evaluation operation on each of the determined object areas (Col. 6, Lines 10 – 32).

14. Referring to claim 23, the main object determination means of Kitazawa automatically determines the main object area (Col. 6, Lines 10 – 32).

15. Referring to claim 24, Kitazawa discloses that the user may instruct the camera to change the main object area by operating a slide switch to select a new main object (Col. 5, Lines 2 – 37).

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16. Referring to claim 25, Kitazawa discloses a priority order determination step that calculates the main object based on an algorithm such as determining the object having the closet distance. That object is selected as the highest priority object area and is set as the main object. The user changes the main object by selecting an object adjacent to the initial main object that has a lower calculated priority based on the algorithm used by Kitazawa. Kitazawa calculated an initial main object based on an algorithm (Col. 6, Lines 22 – 32) and sets the focus of the camera accordingly. The initial main object selected by the camera of Kitazawa is determined to have the highest priority. When the user changes the main object by selecting a new main object adjacent to the current initial main object, the user is changing in descending priority order because the object areas that are adjacent to the initial main object have a lower priority than the initial main object as determined by the algorithm of Kitazawa.

17. Referring to claim 26, in the priority order determination step of Kitazawa, a main object area is selected based on an algorithm that calculates an evaluation value for each object such as object distance. That object is selected as the highest priority object area and is set as the main object. The user changes the main object by selecting an object adjacent to the initial main object that has a lower calculated priority based on the algorithm used by Kitazawa. Kitazawa calculated an initial main object based on an algorithm (Col. 6, Lines 22 – 32) and sets the focus of the camera accordingly. The initial main object selected by the camera of Kitazawa is determined to have the highest priority. When the user changes the main object by selecting a new main object adjacent to the current initial main object, the user is changing in descending

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priority order because the object areas that are adjacent to the initial main object have a lower priority than the initial main object as determined by the algorithm of Kitazawa.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitazawa in view of Nagai.

Referring to claim 3, Kitazawa discloses a slide switch having two directions for changing the main object area. Kitazawa does not disclose a rotary dial for selecting the object areas. However, Nagai discloses a means of designating a cursor position in an image by using a concentric rotary dial interface comprising a first rotary dial 3 in figure 5 disposed around a switch button 2 for designating an X coordinate of a cursor position (Col. 3, Lines 52 – 62). Therefore it would have been obvious to use the rotary dial as the object selecting means of Kitazawa to provide the user with the means to change object areas in a scene in the X direction.

19. Referring to claim 4, Nagai discloses plural rotary dials in figure 5 comprising a first dial 3 for designating an X coordinate and a second dial 4 for designating a Y coordinate in the image data for a cursor position (Col. 3, Lines 52 – 62).

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20. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitazawa in view of Swindler.

Referring to claim 6, Kitazawa discloses a slide switch having two directions for changing the main object area by cycling through adjacent object areas. Kitazawa does not disclose multiple slide switches. However, Swindler discloses a cursor positioning device comprising a four-way slide-type designation member comprising two slide switches (Col. 4, Lines 1 – 39) . Therefore it and would have been obvious to provide the four way slide switch of Swindler with the object selecting means of Kitazawa so that the user can select an object of focus anywhere in the image, up, down, left, or right of center increasing the number of potential main objects.

21. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitazawa in view of Molyneaux et al.

Referring to claim 7, Kitazawa discloses a slide switch having two directions for changing the main object area. Kitazawa does not disclose a trackball. However, Blank discloses a means of designating a cursor position in a captured image using a trackball (Col. 4, Lines 43 – 49). Therefore it would have been obvious to provide a trackball as taught by Blank as the selecting means of Kitazawa so the user can directly select the main object area without having to cycle though other unwanted areas.

22. Claims 9 – 11, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitazawa in view of Saito.

Referring to claim 9, Kitazawa discloses an area discriminating means that detects object distances in a scene and selects the shortest distanced object as the initial main object (Col. 6, lines 22 – 32). Kitazawa discloses an object changing means but the selection is made based on the object area that is directly adjacent to the current object area and not based on the next greater or lesser detected distance.

However, Saito discloses a rotary dial used in a manual focus to set the object distance by during the dial one direction to increase object distance and turning the dial in the opposite direction to decrease the distance (Col. 6, Lines 39 – 58).

Therefore it would have been obvious to provide the rotary operation means and manual focus teachings of Saito with the object detection and manual focus means of the Kitazawa so that objects can be selected by rotating the dial in one direction to focus on a close object or rotate the dial in another direction to focus on a far away object detected in the scene.

23. Referring to claim 10, the direction designating means of Saito is a member of the image sensing optical system that directs the depth of focus (Col. 6, Lines 39 – 58).

24. Referring to claim 11, the direction designation means of Saito is operated in manual (Col. 6, Lines 39 – 58).

25. Referring to claim 20, Kitazawa discloses an area discriminating means that detects object distances in a scene and selects the shortest distanced object as the initial main object (Col. 6, lines 22 – 32). Kitazawa discloses an object changing means but the selection is made

based on the object area that is directly adjacent to the current object area and not based on the next greater or lesser detected distance.

However, Saito discloses a rotary dial used in a manual focus to set the object distance by during the dial one direction to increase object distance and turning the dial in the opposite direction to decrease the distance (Col. 6, Lines 39 – 58).

Therefore it would have been obvious to provide the rotary operation means and manual focus teachings of Saito with the object detection and manual focus means of the Kitazawa so that objects can be selected by rotating the dial in one direction to focus on a close object or rotate the dial in another direction to focus on a far away object detected in the scene.

26. Referring to claim 21, Saito discloses that the direction designated is an optical direction relating to object depth in a scene (Col. 6, Lines 39 – 58).

27. Claims 1, 2, 8 – 19, and 22 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Conceded Prior Art ACPA in view of Kodama.

Referring to claim 1, the applicant discloses a well known optical device comprising an area discriminating means for discriminating a plurality of areas in a sensed image on the basis of a predetermined condition as shown in figures 15a – 15c and a main object area determination means for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing the probability of each area by inputting the size and position of each area into a probability equation listed in the applicants prior art. The applicant also discloses that it is well known to perform a focus adjustment based on the detected main

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object but does not show a main object area changing means for changing the main object area to another area.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34). Therefore it would have been obvious to combine the teachings of Kodama with the applicants conceded prior art to provide a main object changing means for changing the main object to another area that the user intends to be the main object.

28. Referring to claim 2, the applicant discloses an area discriminating means that can detect object areas horizontally perpendicular to the central optical axis such as the walls and trees in the example scene in figures 15a – 15c, and also the area discriminating means of the ACPA can also detect object areas such as the clouds in figures 15a – 15c that are vertically perpendicular to the central optical axis. The applicant does not disclose a main object changing means for designating a new main object.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34).

Therefore it would have been obvious that by changing the main object area such as the man in figures 15a – 15c to something such as the right wall and tress, the user would be selecting an area horizontally perpendicular to the central optical axis.

29. Referring to claim 8, the applicant does not disclose a main object changing means for manually designating a new main object.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34). Therefore it would have been obvious to combine the teachings of Kodama with the applicants conceded prior art to provide a main object changing means for changing the main object to another area that the user intends to be the main object.

30. Referring to claim 9, the applicant discloses prior art comprising an area discriminating means that discriminates a plurality of areas in an object image based upon distances to objects included in the image as shown in figures 15a – 15c. Figure 15b shows a distance measurement that returns the detected object distance to the camera. The detected distances in figure 15b are compared to each other to determine separate objects in an image scene and are grouped accordingly in figure 15c. The applicant does not disclose a main object changing means for designating a new main object.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34). Therefore it would have been obvious to combine the teachings of Kodama with the applicants conceded prior art to provide a main object changing means for changing the main object to another area that the user intends to be the main object.

31. Referring to claim 10, the direction designating means of Kodama is a focusing member of an image sensing optical system used to determine the visual axis of the user in turn selecting the focus object of a scene.

32. Referring to claim 11, Kodama discloses a focusing member of an image sensor optical system used to manually select the visual axis of the user in turn selecting the focus object of a scene.

33. Referring to claim 12, the applicant discloses a main object area determination means for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

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34. Referring to claim 13, the applicant discloses that the main object determining means automatically determines the main object area as discloses in the applicants conceded prior art.

35. Referring to claim 14, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

The applicant is only performing the evaluation to determine the main object area because the prior art of the applicant has no intent on changing the main object area so there is no step of deterring a priority order. However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34).

In changing the main object area of the applicant's prior art using the teachings of Kodama, it would have been obvious to provide a priority order based on the evaluation values of the applicants prior art to determine an order to which the user may manually cycle through object areas to find the one most desirable for focusing upon. By listing object areas in order of priority it is more likely the user will find the correct main object area efficiently than by searching a random sequence of object areas in a scene.

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36. Referring to claim 15, the applicant discloses a main object area determination means for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

37. Referring to claim 16, the applicant discloses a well known method of focusing an object image comprising an area discriminating step for discriminating a plurality of areas in a sensed image on the basis of a predetermined condition as shown in figures 15a – 15c and a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing the probability of each area by inputting the size and position of each area into a probability equation listed in the applicants prior art. The applicant also discloses that it is well known to perform a focus adjustment based on the detected main object but does not show a main object area changing means for changing the main object area to another area.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34). Therefore it would have been obvious to combine the teachings of Kodama with the applicants conceded prior art to provide a main object changing means for changing the main object to another area that the user intends to be the main object.

38. Referring to claim 17, the applicant discloses an area discriminating means that can detect object areas horizontally perpendicular to the central optical axis such as the walls and trees in the example scene in figures 15a – 15c, and also the area discriminating means of the ACPA can also detect object areas such as the clouds in figures 15a – 15c that are vertically perpendicular to the central optical axis. The applicant does not disclose a main object changing means for designating a new main object.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34). In changing to a next area to be selected as the new main object, it would have been obvious to one of ordinary skill in the art to provide some means of cycling through the object areas in the scene in an order such as selecting an area next to the current main object instead of randomly choosing a new main object so the user can systematically change the object area.

39. Referring to claim 18, the applicant discloses an area discriminating means that can detect object areas horizontally perpendicular to the central optical axis such as the walls and trees in the example scene in figures 15a – 15c, and also the area discriminating means of the ACPA can also detect object areas such as the clouds in figures 15a – 15c that are vertically

perpendicular to the central optical axis. The applicant does not disclose a main object changing means for designating a new main object.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34). In changing the main object area it would have been obvious to designate a direction relative to the current main object such as right or left to move the main object horizontally to be one of the walls as shown in figures 15a – 15c, or move the main object selection vertically to select the clouds also shown in figures 15a – 15c thereby selecting the main object from two directions horizontal and vertical.

40. Referring to claim 19, the applicant discloses an area discriminating means that can detect object areas horizontally perpendicular to the central optical axis such as the walls and trees in the example scene in figures 15a – 15c, and also the area discriminating means of the ACPA can also detect object areas such as the clouds in figures 15a – 15c that are vertically perpendicular to the central optical axis. The applicant does not disclose a main object changing means for designating a new main object.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1,

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Lines 24 – 34). In changing the main object area it would have been obvious to designate a direction relative to the current main object such as right or left to move the main object horizontally to be one of the walls as shown in figures 15a – 15c, or move the main object selection vertically to select the clouds also shown in figures 15a – 15c thereby selecting the main object from two directions horizontally and vertically perpendicular to the central optical axis.

41. Referring to claim 22, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

42. Referring to claim 23, the applicant discloses that the main object determining means automatically determines the main object area as discloses in the applicants conceded prior art.

43. Referring to claim 24, the applicant does not show a main object area changing step for manually changing the main object area to another area.

However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to

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manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34).

Therefore it would have been obvious to combine the teachings of Kodama with the applicants conceded prior art to provide a manual main object changing means for changing the main object to another area that the user intends to be the main object.

44. Referring to claim 25, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

The applicant is only performing the evaluation to determine the main object area because the prior art of the applicant has no intent on changing the main object area so there is no step of deterring a priority order. However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34).

In changing the main object area of the applicant's prior art using the teachings of Kodama, it would have been obvious to provide a priority order based on the evaluation values of the applicants prior art to determine an order to which the user may manually cycle through object areas to find the one most desirable for focusing upon. By listing object areas in order of

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priority it is more likely the user will find the correct main object area efficiently than by searching a random sequence of object areas in a scene.

45. Referring to claim 26, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

The applicant is only performing the evaluation to determine the main object area because the prior art of the applicant has no intent on changing the main object area so there is no step of deterring a priority order. However Kodama discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Kodama discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (Col. 1, Lines 24 – 34).

In changing the main object area of the applicant's prior art using the teachings of Kodama, it would have been obvious to provide a priority order based on the evaluation values of the applicants prior art to determine an order to which the user may manually cycle through object areas to find the one most desirable for focusing upon. By listing object areas in order of priority it is more likely the user will find the correct main object area efficiently than by searching a random sequence of object areas in a scene.

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46. Claims 3, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over ACPA in view of Kodama in further view of Saito.

Referring to claim 3, Kodama discloses that a detected main object is changed by detecting the visual axis of the photographer's eye in the viewfinder. Kodama does not disclose a rotary operation member such as a dial, capable of rotating at least in two directions. However, Saito discloses a rotary dial used in a manual focus to set the object distance by during the dial one direction to increase object distance and turning the dial in the opposite direction to decrease the distance (Col. 6, Lines 39 – 58).

The applicant's conceded prior art shows that objects are determined based on their determined distance from the camera detected in the scene as shown in figure 15b. Therefore it would have been obvious to provide the rotary operation means and manual focus teachings of Saito with the object detection means of the applicants conceded prior art so that objects can be selected by rotating the dial in one direction to focus on a close object or rotate the dial in another direction to focus on a far away object detected in the scene.

47. Referring to claim 20, Kodama discloses that a detected main object is changed by detecting the visual axis of the photographer's eye in the viewfinder. Kodama does not disclose a method of changing the main object based on object distance in the scene where the main object is changed based on the next object with next shorter or longer distance depending on whether the user is selecting an object closer to or farther away from the camera relative to the current main object. However, Saito discloses a rotary dial used in a manual focus to set the

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object distance by during the dial one direction to increase object distance and turning the dial in the opposite direction to decrease the distance (Col. 6, Lines 39 – 58).

The applicant's conceded prior art shows that objects are determined based on their determined distance from the camera detected in the scene as shown in figure 15b. Therefore it would have been obvious to provide the rotary operation means and manual focus teachings of Saito with the object detection means of the applicants conceded prior art so that objects can be selected by rotating the dial in one direction to focus on a close object or rotate the dial in another direction to focus on a far away object detected in the scene.

48. Referring to claim 21, Saito discloses that the direction designated is an optical direction relating to object depth in a scene (Col. 6, Lines 39 – 58).

49. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over ACPA in view of Kodama in further view of Saito in further view of Ganser et al.

Referring to claim 4, Saito discloses a single bi-direction dial for increasing or decreasing object distance in a manual focus device. Saito does not disclose a plurality of rotary dials. However, Ganser et al discloses a focus adjustment comprising a knob 2 in figure 1 having two rotary operating members; a first member for a course focus adjustment; and a second for a fine focus adjustment (Col. 3, Line 63 – Col. 4, Line 5). Therefore it would have been obvious to provide the focus adjustment means of Ganser with the focus device of Saito so the user can use a first rotary member to coarsely adjust the object distance to an approximate position of the

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intended object of focus, then use the fine adjustment rotary member to set the exact distance of the intended main object to perform an accurate focus adjustment.

50. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over ACPA in view of Kodama in further view of Abe.

Referring to claim 7, Kodama discloses that a detected main object is changed by detecting the visual axis of the photographer's eye in the viewfinder. Kodama does not disclose a track ball as a direction designation means to manually select a main object. However Abe discloses a tack ball used by to user to manually select an object area in a scene sensed by the camera (Col. 18, Lines 42 – 61).

The applicant's conceded prior art shows that object areas are separated and numbered in the field of view as shown in figure 15c. Therefore it would have been obvious to provide the track ball of Abe as a means of allowing the user to directly select a main object from the plurality of areas determined by the object determining means of the applicants conceded prior art which would allow the user to find the main object in less time than cycling through each object on at a time.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew L Rosendale whose telephone number is (703) 305-4909. The examiner can normally be reached on Monday - Friday 8: 00am-4: 00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

MLR


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